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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/683,952	10/09/2003	Michael J. Sherrill	010072.02	2775

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EXAMINER	
HENRY, MICHAEL C	

ART UNIT	PAPER NUMBER
1623	

DATE MAILED: 06/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/683,952	SHERRILL ET AL.	
	Examiner	Art Unit	
	Michael C. Henry	1623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02/14/05*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 and 4-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 and 4-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *11/22/04 & 3/30/05*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

The following office action is a responsive to the Amendment filed, 02/14/05.

The amendment filed 02/14/05 affects the application, 10/683,952 as follows:

1. Claims 1, 4, 15 and 17 have been amended. Claims 2 and 3 have been canceled. This leaves claims 1, 4-22.
2. The responsive to applicants' arguments is contained herein below.

Claims 1 and 4-22 are pending

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 4-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The phrase "wherein the epothilone is provided in a therapeutically acceptable concentration upon administration to a patient" in claim 1, renders the claim indefinite. More specifically, it is unclear what the administration of said composition (to a patient) has to do with the claimed composition especially since the claim is a composition claim and not a method. Consequently, one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 4-8 and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by Hofmann et al. (US 6,194,181 B1).

In claim 1, applicant claims " A pharmaceutical composition comprising an epothilone together with a pharmaceutically acceptable carrier, wherein the composition comprises at least one cyclodextrin, and wherein the epothilone is provided in a therapeutically acceptable concentration upon administration to a patient." Hofmann et al. disclose applicant's pharmaceutical composition comprising an epothilone (epothilone B) and β-cyclodextrin together with a pharmaceutically acceptable carrier (water) (see example 2A, Table 1, col. 24, line 32-col. 25, line 17). It should be noted that Hofmann et al.'s composition contains water, which is a pharmaceutically acceptable carrier (see example 2A, Table 1, col. 24, line 32-col. 25, line 17). Claim 4, which is drawn to specific cyclodextrins including β-cyclodextrin, is also anticipated by Hofmann et al, since Hofmann et al.'s composition also contains β-cyclodextrin (see example 2A, Table 1, col. 24, line 32-col. 25, line 17). Dependent claims 5 and 7 which are drawn to compositions containing specific epothilone, including epothilone B and hydroxypropyl-β-cyclodextrin, is also anticipated by Hofmann et al, since Hofmann et al.'s composition also contains epothilone B and hydroxypropyl-β-cyclodextrin (see example 2A, Table 1, col. 24, line 32-col. 25, line 17). Claim 22 is drawn to "A soft gel cap comprising a

pharmaceutical composition of Claim 1." Hofmann et al. disclose applicant's pharmaceutical composition comprising an epothilone (epothilone B) and β-cyclodextrin together with a pharmaceutically acceptable carrier (water) (see example 2A, Table 1, col. 24, line 32-col. 25, line 17). It should be noted that Hofmann et al.'s composition contains water, which is a pharmaceutically acceptable carrier (see example 2A, Table 1, col. 24, line 32-col. 25, line 17)." Also, it should be noted that the said gel cap does not add to the patentability of the said composition.

Claims 1, 4,5,7, 9-11, 13,15 and 22 are rejected under 35 U.S.C. 102(e) as being anticipated by van Hoogevest (US 6,683,100 B2).

In claim 1, applicant claims " A pharmaceutical composition comprising an epothilone together with a pharmaceutically acceptable carrier, wherein the composition comprises at least one cyclodextrin, and wherein the epothilone is provided in a therapeutically acceptable concentration upon administration to a patient." Van Hoogevest discloses applicant's pharmaceutical composition comprising an epothilone (epothilone B) and hydroxypropyl-β-cyclodextrin together with a pharmaceutically acceptable carrier (water) (see col. 12, example 11 to 14, lines 26-39). Dependent claims 4,5,7, 9-11 and 13 which are drawn to specific epothilone, specific cyclodextrin and a lyoplilized mixture, are anticipated by Van Hoogevest, since Van Hoogevest composition also contain the same epothilone, cyclodextrin, and is a lyophilized mixture (see col. 12, example 11 to 14, lines 26-39). Also, it should be noted that the said gel cap does not add to the patentability of the said composition.

In claim 15, applicant claims "A method of preparing a pharmaceutical composition, said method comprising the steps of obtaining a lyophilate comprising an epothilone and a

cyclodextrin; and dissolving said lyophilate in a suitable reconstitution solvent." Van Hoogevest disclose applicant's method of preparing a pharmaceutical composition, said method comprising the steps of obtaining a lyophilate comprising an epothilone and a cyclodextrin; and dissolving said lyophilate in a suitable reconstitution solvent, water (see col. 12, example 10, lines 1-39).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 9-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hofmann et al.(US 6,194,181 B1).

In claim 1, applicant claims " A pharmaceutical composition comprising an epothilone together with a pharmaceutically acceptable carrier, wherein the epothilone is provided in a therapeutically acceptable concentration upon administration to a patient." Claims 6 and 8 are drawn to the pharmaceutical composition, wherein the epothilone is epothilone D and the cyclodextrin is sulfopropyl-β-cyclodextrin.

Hofmann et al. disclose a pharmaceutical composition comprising an epothilone (epothilone B) and β-cyclodextrin (see example 2A, Table 1, col. 24, line 32-col. 25, line 17).

The difference between applicant's claimed composition and the composition of Hofmann et al. is type of epothilone or the type of cyclodextrin claimed in the composition. However, Hofmann et al. disclose that the composition can contain, preferably epothilone C, D, E, F or especially A or in particular epothilone B, and cyclodextrins or cyclodextrins derivatives

such as sulfo-lower-alkyl ethers (which includes sulfopropyl-β-cyclodextrin) (col.9, line 61 to col. 10, line 62).

It would have been obvious to one having ordinary skill in the art, at the time the claimed invention was made to prepare the composition of Hofmann et al. comprising any epothilone and cyclodextrin suggested by Hofmann et al., such as epothilone D and sulfopropyl-β-cyclodextrin, to be used as an anticancer drugs, based on need.

One having ordinary skill in the art would have been motivated to prepare the composition of Hofmann et al. comprising any epothilone and cyclodextrin suggested by Hofmann et al., such as epothilone D and sulfopropyl-β-cyclodextrin, to be used as an anticancer drugs, based on need.

In claim 9, applicant claims "A lyophilized mixture comprising an epothilone and a cyclodextrin. Dependent claims 10-14 are drawn to a lyophilized mixture comprising specific epothilones and cyclodextrins.

Hofmann et al. disclose a composition comprising an epothilone (epothilone B) and cyclodextrin (see example 2A, Table 1, col. 24, line 32-col. 25, line 17). Hofmann et al. disclose that the composition can contain, preferably epothilone C, D, E, F or especially A or in particular epothilone B, and cyclodextrins or cyclodextrins derivatives such as sulfo-lower-alkyl ethers (which includes sulfopropyl-β-cyclodextrin) (col.9, line 61 to col. 10, line 62).

The difference between applicant's claimed composition and the composition of Hofmann et al. is that applicant's composition is lyophilized. However, it is common to prepare lyophilized composition of therapeutic agents, pharmaceuticals or drugs such as epothilone by

conventional pharmaceutical acceptable methods such as lyophilization (for example, see US 6, 015,552, col. 5, lines 28-34).

It would have been obvious to one having ordinary skill in the art, at the time the claimed invention was made to prepare the epothilone composition of Hofmann et al. in the form of a lyophilized composition since epothilone is a therapeutic agent or drug and, it is common to prepare lyophilized composition of therapeutic agents, based on need.

One having ordinary skill in the art would have been motivated to prepare the epothilone composition of Hofmann et al. in the form of a lyophilized composition since epothilone is a therapeutic agent or drug and, it is common to prepare lyophilized composition of therapeutic agents, based on need.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 15-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over van Hoogevest (6,683,100 B2).

In claim 15, applicant claims "A method of preparing a pharmaceutical composition, said method comprising the steps of obtaining a lyophilate comprising an epothilone and a cyclodextrin; and dissolving said lyophilate in a suitable reconstitution solvent." Claims 16-21 are drawn to specific solvents and amounts and ratios of solvents.

Van Hoogevest disclose a method of preparing a pharmaceutical composition, said method comprising the steps of obtaining a lyophilate comprising an epothilone and a cyclodextrin; and dissolving said lyophilate in a suitable reconstitution solvent, water (see col. 12, example 10, lines 1-39).

The difference between applicant's claimed method and the method of Van Hoogevest is that Van Hoogevest does not exemplify the use of the specific solvents. However, Van Hoogevest discloses that the solvents claimed by applicant (such as polyethylene glycol and alcohol) and glycols in general, can be used as solvent (see col. 2, lines 30-64 and claim 1; see also col. 7, lines 10-27).

It would have been obvious to one having ordinary skill in the art, at the time the claimed invention was made to have used the method of van Hoogevest to prepare the composition of van Hoogevest comprising epothilone and cyclodextrin and to use any solvent suggested by van Hooogevest, such as epothilone D and sulfopropyl-β-cyclodextrin, to be used as an anticancer drugs, based on need.

One having ordinary skill in the art would have been motivated to use the method of van Hoogevest to prepare the composition of van Hoogevest comprising epothilone and cyclodextrin and to use any solvent suggested by van Hooogevest, such as epothilone D and sulfopropyl-β-cyclodextrin, to be used as an anticancer drugs, based on need.

Response to Arguments

Applicant's arguments with respect to claim 1,4-21 have been considered but are not found convincing.

The applicant argues that the water in Hoffman et al. composition is not a pharmaceutically acceptable carrier since it contains other components such as microorganisms and nutrients. However, water is a pharmaceutically acceptable carrier and the purity of the water used is not the claimed by applicant. Furthermore, applicant's claimed composition comprises a pharmaceutically acceptable carrier and does not exclude other components.

The Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael C. Henry whose telephone number is 571-272-0652. The examiner can normally be reached on 8:30 am to 5:00 pm; Mon-Fri. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James O. Wilson can be

reached on 571-272-0661. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308-1235.

MCH

May 27, 2005.

ELVIS O. PRICE, PH.D.
PRIMARY EXAMINER